

WHAT IS CLAIMED IS:

1. The method of producing a contact lens comprising the steps of selecting an active material which is insoluble in the monomer material to be used in the lens, dispersing said active material in a carrier system which is compatible with said monomer material, using the resulting dispersion to coat a surface of a casting mold, introducing a monomeric lens forming liquid in said mold in contact with said coated surface, and polymerizing said liquid to produce a lens blank having an active material impregnated in said blank, adjacent an optical surface thereof.

2. The method of Claim 1 in which the active material is a coloring material.

3. The method of Claim 1 in which the active material is a therapeutic agent.

4. The method of producing a colored contact lens comprising the steps of selecting a coloring material which is insoluble in the monomer material to be used in the lens, dispersing said coloring material in a carrier system which is compatible with said monomer material, using the resulting dispersion to imprint a pattern on a surface of a casting mold, introducing a monomeric lens forming liquid in said mold in contact with said imprinted surface, and polymerizing said liquid to produce a lens blank having a colored pattern impregnated in said blank, adjacent an optical surface thereof.

5. The method of Claim 4 in which said pattern is an iris pattern.

6. The method of Claim 4 in which the monomer is a hydrogel-forming material.

7. The method of Claim 4 in which the monomer is a gas permeable hard

05986709 110904
FOUOIT 6029860

lens forming material.

8. The method of Claim 4 in which the carrier system comprises a carrier system resin dissolved in an organic solvent.

9. The method of Claim 8 in which the resin is a thermoplastic resin.

5 10. The method of Claim 8 in which the resin is the polymerized precursor of a thermoset resin.

11. The method of Claim 4 in which the coloring material is a pigment.

12. The method of Claim 4 in which the coloring material is a dye insoluble in the monomer material.

10 13. The method of Claim 4 in which the coloring material is a mixture of pigments.

15 14. The method of producing a colored contact lens comprising the steps of, providing a carrier system by dissolving in an organic solvent from 1 to 90% by weight of a polymerized thermoplastic material which is compatible with the monomer material to be used in the lens, dispersing in the resulting solution from about 1 to 80% by weight of a coloring material, using the resulting dispersion to imprint a pattern on a surface of a casting mold, introducing a monomeric lens forming liquid in said mold in contact with said imprinted surface, and polymerizing said liquid to produce a lens blank having a colored pattern impregnated in said
20 blank, adjacent an optical surface thereof.

15. The method of Claim 14 in which the monomer is a hydroxy ethyl

09986709 10001
T0607T 60298560

methacrylate.

16. The method of Claim 14 in which the monomer is a glycidyl methacrylate/methyl methacrylate monomer blend.

5 17. The method of Claim 14 in which the monomer is a methacryloxypropyltris (pentamethyl disiloxanyl) silane/methylmethacrylate monomer blend.

18. The method of Claim 14 in which the resin system comprises polyvinyl alcohol dissolved in butanol.

10 19. The method of Claim 14 in which the resin system comprises polyvinyl chloride dissolved in a methyl ethyl ketone.

20. The method of Claim 14 in which the resin system comprises polymethyl methacrylate dissolved in a blend of 1-methoxy-2-propylacetate and cyclohexanone.

21. The method of Claim 14 in which the coloring material is titanium dioxide.

15 22. The method of Claim 14 in which the coloring material is phthalocyanine blue.

23. The method of Claim 14 in which the coloring material is phthalocyanine green.

20 24. The method of Claim 14 in which the coloring material is a mixture of titanium dioxide, phthalocyanine blue and phthalocyanine green.

0986709 110901

09986709-440001

25. The method of producing a colored contact lens comprising the steps of providing a resin system by dissolving from about 10 to 30% by weight of a polyvinyl alcohol in about 90 to 70% weight of butanol, dispersing in the resulting solution a mixture of about 1 to 20% by weight of a titanium oxide, about .01 to 1% by weight phthalocyanine blue, .01 to .1% by weight phthalocyanine green, and about .01 to 1.0% by weight iron oxide yellow pigments, using the resulting dispersion to imprint an iris pattern on a surface of a casting mold, introducing a hydroxy ethyl methacrylate monomer in said mold in contact with said imprinted surface, and polymerizing said monomer to produce a lens blank having a colored iris pattern impregnated in said blank, adjacent an optical surface thereof.

26. The process of Claim 25 in which the pigment particles are less than 10 microns in size.

27. The process of Claim 25 in which the dispersion is imprinted on the convex surface of a mold half and the monomer is introduced into the concave mold half.

28. The process of Claim 25 in which the said lens blank is subsequently hydrated and finished to produce a colored soft hydrogel lens.

29. An optical lens having an active material encapsulated in resin capsules impregnated in said lens, adjacent an optical surface thereof.

30. The optical lens of Claim 29 in which the lens comprises a hydrogel material.

31. The optical lens of Claim 29 in which the lens is a gas permeable hard lens.

32. The optical lens of Claim 29 in which the resin capsules are formed from a polymerized thermoplastic resin.

33. The optical lens of Claim 29 in which the resin capsules are formed from a polymerized precursor of a thermostat resin.

5 34. The optical lens of Claim 29 in which the active material is a therapeutic agent.

35. The optical lens of Claim 29 in which the active material is a coloring material.

10 36. The optical lens of Claim 29 in which the coloring material is a pigment insoluble in the monomer used in producing the lens.

37. The optical lens of Claim 35 in which the coloring material is a dye insoluble in the monomer used in producing the lens.

38. The optical lens of Claim 35 in which the coloring material is in the form of an identifying mark on one side of said lens.

15 39. A hydrogel optical lens having imbedded therein resin capsules containing an active material, said lens having substantially intact films of hydrogel material on the optical surfaces thereof, and with the said resin capsules concentrated closely adjacent at least on of said surfaces.

20 40. The optical lens of Claim 39 in which the lens forming material is a hydroxy ethyl methacrylate.

09986709 110901

41. The optical lens of Claim 39 in which the lens forming material is a glycidyl methacrylate/methyl methacrylate monomer blend.

5 42. The optical lens of Claim 39 in which the lens forming material is a methacryloxypropyltris(pentamethyl disiloxanyl) silane/methyl methacrylate monomer blend.

43. The optical lens of Claim 39 in which the resin is polyvinyl alcohol.

44. The optical lens of Claim 39 in which the resin is polyvinyl alcohol.

45. The optical lens of Claim 39 in which the resin is polymethyl methacrylate.

10 46. The optical lens of Claim 39 in which the active material is a therapeutic agent.

47. The optical lens of Claim 39 in which the active material is a coloring material.

15 48. The optical lens of Claim 47 in which the coloring material is titanium dioxide.

49. The optical lens of Claim 47 in which the coloring material is phthalocyanine blue.

50. The optical lens of Claim 47 in which the coloring material is phthalocyanine green.

09986709 110901

51. The optical lens of Claim 47 in which the coloring material is a mixture of titanium dioxide, phthalocyanine blue and phthalocyanine green.

add B1

09086709 110503